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Donald p1 said polypeptide, when admixed with a pharmaceutically acceptable phospholipid, forming a synthetic pulmonary surfactant having a surfactant activity greater than the surfactant activity of the phospholipid alone.

2/3 (Amended) A method of treating respiratory distress syndrome comprising administering a therapeutically effective amount of a synthetic pulmonary surfactant, said surfactant comprising a pharmaceutically acceptable phospholipid admixed with an effective amount of a polypeptide comprising at least 10 amino acid residues and no more than about 60 amino acid residues, said polypeptide including a sequence having alternating hydrophobic and hydrophilic amino acid residue regions represented by the formula $(Z_a U_b)_c Z_d$, wherein:

Q p1 Z is a hydrophilic amino acid residue independently selected from the group consisting of R and K;

p1 U is a hydrophobic amino acid residue independently selected from the group consisting of V, I, L, C [, Y] and F;

p1 a has an average value of about 1 to about 5;

b has an average value of about 3 to about 20;

c is 1 to 10; and

d is 1 to 3;

p1 said polypeptide, when admixed with a pharmaceutically acceptable phospholipid, forming a synthetic pulmonary surfactant having a surfactant activity greater than the surfactant activity of the phospholipid alone.